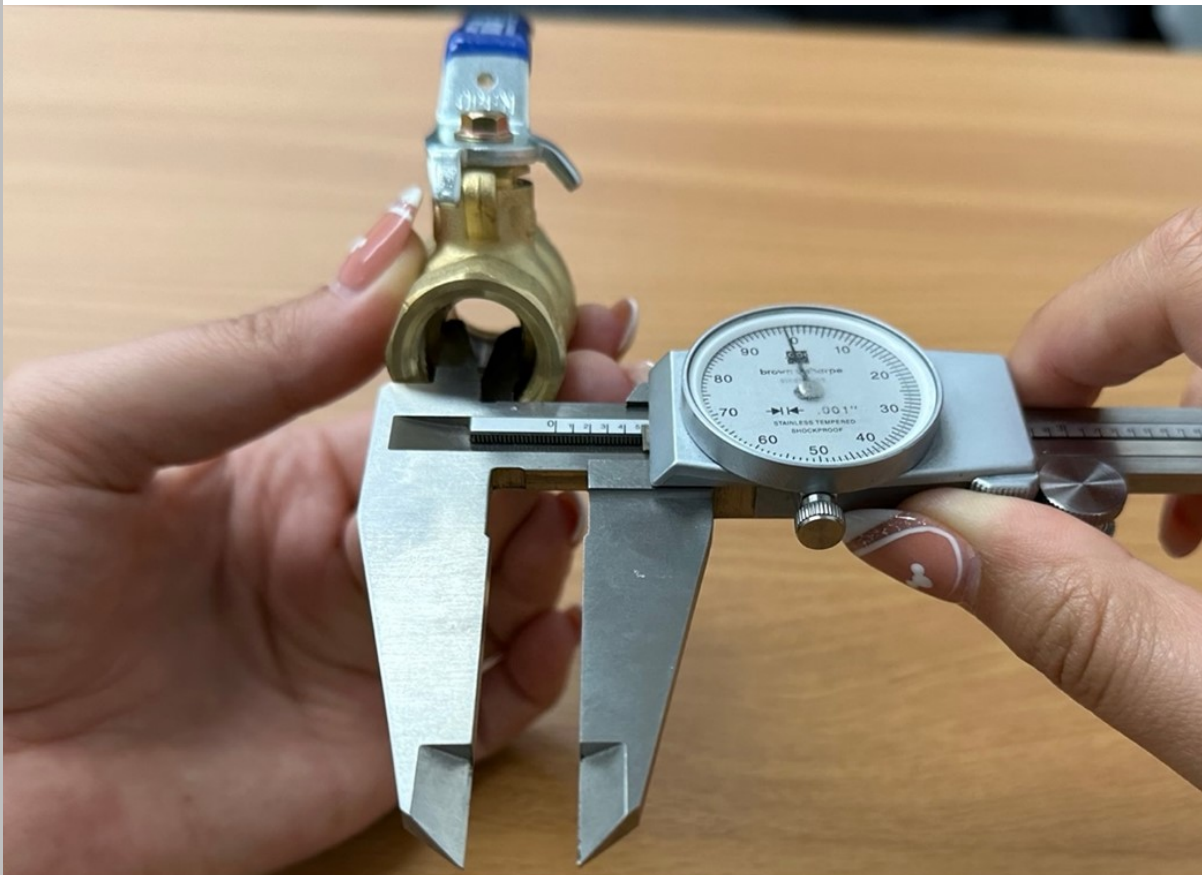


June 5, 2024

Full Port vs. Reduced Port in the REAL World.

Do You Know... Recently, a customer was comparing the port opening of a Milwaukee Valve BA-475B ball valve to that of a competitor. The customer arrived at the incorrect conclusion that Milwaukee Valve had sold them with something other than a full port valve. So let's dig into this discrepancy.

On the BA-475B specification sheet, an opening of 0.51" is clearly identified. The competition states a port opening of 0.59", making it larger by about 3/32". So, what does this mean in real terms and where do we turn for further explanation?



In a recent newsletter, the term **nominal** was defined as “existing in name only”. The discrepancy is an example of a nominal measurement. The long and short of it is that **both** valves are compliant. Industry standards dictate the answer, specifically MSS SP-110, which defines the opening dimension for full-port valves, as well as regular (or standard) and reduced (often called double-reduced) ports.

Many specifiers expect that “full port” feature an opening as large as the internal diameter of the mating pipe. The ID of 1/2" standard weight pipe is 0.622". Following the ID scenario, neither manufacturer could claim to be full port. Again, this is incorrect.

The chart below is taken directly from MSS SP-110. An additional column was added to show the ID of standard weight pipe in these sizes for comparison. Reference to the undersize tolerance means that the opening can be under by 0.06" and still be classified as full port. The oversize limit means that the opening can be anything

above the minimum opening dimension. Manufacturers are free to make the hole as large as they want. Clearly, the Milwaukee Valve opening of 0.51" can be called full port as defined by MSS SP-110 in 1/2" size.

MSS SP-110 Port Sizes For Ball Valves				
Valve Size (NPS)	Full Port Inches	Regular/Standard Port Inches	Reduced Port Inches	ID of STD weight pipe
1/4	0.25	Not Specified	Not Specified	0.364
3/8	0.37	Not Specified	Not Specified	0.493
1/2	0.5	0.37	0.31	0.622
3/4	0.75	0.56	0.46	0.824
1	1	0.75	0.62	1.049
1 1/4	1.25	0.93	0.77	1.38
1 1/2	1.5	1.12	0.93	1.61
2	2	1.5	1.24	2.067
2 1/2	2.5	1.87	1.55	2.469
3	3	2.25	1.86	3.068
4	4	3	2.48	4.026
Tolerance:	Undersize:	.06 inches		
	Oversize:	No Limit Specified		

For the record, Milwaukee Valve does not offer the BA-475B in anything other than full port. There are no other port options.

For more information on full port vs. reduced port or nominal valve and pipe or tube sizes, visit www.MilwaukeeValve.com or contact your Milwaukee Valve customer service rep today. A complete listing, by territory, can be searched at our website, at www.MilwaukeeValve.com/Find-Sales-Rep/.



MILWAUKEE VALVE

www.milwaukeevalve.com
262.432.2700



HAMMOND VALVE

www.hammondvalve.com
262.432.2702

16550 West Stratton Drive, New Berlin, WI 53151

